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WORKSHOP 1**

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Document Information

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Related Documents:

This report and others are available from the **ANYWHERE** Project Website at: <http://www.anywhere-h2020.eu/>

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Summary

This document introduces readers to the idea and relevance of collaborative research to build a framework for co-ownership. While being a large challenge, working together in a diverse environment and comprising the experiences, backgrounds, interests and perspectives of a diverse set of actors is the most promising way to reach the goal of creating a disaster management platform that is actually going to be applied in practice. This report details the variety of expertise in the project, but also the expectations and needs that were expressed in the scope of a large survey by all project partners at the beginning of the project. It also provides an overview about the expectations, needs, challenges and ways of involvement that are expressed and desired by external partners that are part of the ANYWHERE stakeholder board and the SME and Industry Collaborative Network (SICN). It finishes with a list of recommendations that is derived from the feedback provided by both project members and external stakeholders.

Note: This is the public version of D1.1. The authors of all citations have therefore been removed. The citations, however, are still marked as such.



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1 Aiming at co-ownership: ANYWHERE collaborative framework

This reports highlights, after a short introduction (section 1.1), the relevance and added value of collaborative research, especially as this project is an innovation action. Section 1.2 explains how collaborative research is needed to work towards a sense of co-ownership of the ANYWHERE platform that will be developed within the next three years. Section 1.3 presents the theoretical backbone of establishing a collaborative framework. Five cornerstones are elaborated that should serve as main guidelines for collaboration in the course of this project.

1.1 Introduction

ANYWHERE is an innovation action focused on transforming already existing early warning and climate forecast scientific advances into new informational products and services to be used by Civil Protection, First Responder Authorities, citizens and institutions with activities at risk during high-impact weather and climate events.

ANYWHERE strives to organize its innovation and research process in a collaborative manner; therefore, includes not only researchers throughout the project but also developers, potential users and other stakeholders that might share an interest in the various outputs developed by ANYWHERE. In this sense, the research process is not primarily focusing on the advancement of science itself; it rather follows an overarching and a priori defined goal: Enhancing the capacity of responder institutions and citizens to better anticipate and respond to extreme and high-impact weather and climate events by developing and implementing cutting-edge forecasting technology and a common decision-support platform tailored to the needs of emergency managers. The ultimate goals are to enhance citizen's self-preparedness and self-protection and thus save lives.

Therefore, we will ensure that the outputs developed by ANYWHERE reflect the needs and requirements of potential users and have a high potential for being exploited after the end of the project. At the same time users and stakeholders with an interest in ANYWHERE outputs need to have a sound understanding of what the consortium is able to supply and develop within and possibly beyond the project duration (Sarewitz and Pielke Jr. 2007; Bracken et al. 2014). To do so, the framework also reflects the idea of doing research and innovation activities responsibly, as strongly outlined in the European Commission's Science in Society programme:

“Responsible Research and Innovation is a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society)”. (von Schomberg 2011b)

However, before going deeper into the demand-and-supply analysis (which will be reported in Deliverable 1.2, to be finalized in May 2017), this document lays out a collaborative framework that describes expectations and further specifies the different roles of researchers, developers and users involved in the project. At its core, it makes the modes of interaction and mutual expectations, which are often only



implicitly taken into account in transdisciplinary research and innovation processes, transparent to all internal and external project partners. In addition, the framework and its specifications shall ensure that users and stakeholders build up “ownership” with the products developed by ANYWHERE. Ownership refers here not to the rather common legal understanding, i.e. have copyright or a license for a certain product. It rather refers to the idea that products are developed in a collaborative way. Being an innovation action it is of utmost importance that the results of the project are accepted by the potential users and that they are considered as useful and reflect their needs (Bracken et al. 2014). If possible potential users involved in the project should also value the process in which they are able to shape through their own contributions and interventions. Ideally, users and operational partners involved in ANYWHERE not only contribute to better outcomes of the project, they might also serve as multiplier and promoter of the solutions developed, at minimum in their own working environment.

Finally, the products should also be developed in such a way that they are competitive and ready for market uptake, i.e. provide a real added value to what is being used by the involved (and other) parties at the moment. That means that the potential buyers need to develop trust and that they are also willing, sooner or later, to invest financially in the new products. Research has shown that the concepts of collaboration, co-creation and co-ownership have the potential to meet all these requirements and might - on top of that - very well result in competitive advantages (see Van de Ven 2007). The following report details the cornerstones of this framework and how it will guide the collaborative process in ANYWHERE. At the same time, the empirical results about internal and external expectations with regard to the project and its anticipated outcomes, presented in Chapter 3 and 4 serves as a baseline for the collaborative development of the ANYWHERE research and innovation process and will be regularly updated and reflected upon during the project duration. This shall ensure that the collaborative process allows users and stakeholders to develop “ownership” of outputs produced by ANYWHERE.

1.2 Achieving co-ownership through collaborative research

Generally, the idea of collaborative research describes a process, which is situated in a multi-actor environment and aims at addressing an objective that cannot be adequately tackled by a single actor. In this sense, it implies to “co-labour, to achieve common goals, often working across boundaries and in multi-sector and multi-actor relationships” (Agranoff and McGuire 2003, p. 4).

While scientists and developers involved in ANYWHERE would be able to produce an innovative platform that aims at supporting decision-making processes in disaster risk management, it would hardly be possible to adapt it to the respective operational context of disaster risk management authorities without involving these in the innovation process. Moreover, again, it would be much more difficult to achieve a market uptake. Therefore, their needs and requirements need to be systematically included in the development process, whereas this process should ideally be organized reciprocally and shaped by mutual openness and trust (Pooharoen and Ting 2015).



“Collaboration is a closer relationship between the parties where new structures emerge and social and organizational capital is built. Collaboration involves a willingness of parties and stakeholders involved to enhance one another’s capacity for mutual benefit. The parties share risks, responsibilities and rewards, invest substantial time, share common turf, and have high levels of trust (Himmelman 2001).

As an implication, collaboration cannot be entirely planned a priori but should be understood as an emergent process. In collaborative research and innovation processes, there is usually a large numbers of actors involved, each of them having different previous experiences as well as different expectations with regard to their own role, the research and innovation process but also the anticipated outcomes of the collaboration process. As an implication, the exact shape and contours of collaborative process are only becoming definite during the collaboration process itself. Therefore, the modes of collaboration, the forms of interaction as well as the “strategic and operational complexity” (Agranoff and McGuire 2003, p. 34) should become part of the governance of the collaboration process itself and be from time to time reflected upon.

In line with Van de Ven’s (2007) understanding of collaborative research we outline subsequently central dimensions of ANYWHERE’s collaboration process and then outline in section 1.3 how ANYWHERE sets up its collaborative framework and how it will be implemented during the project in order to ensure the co-ownership of the outputs aimed at.

The collaboration process is defined by the involvement of „insiders and outsiders“ (Van den Ven 2007, p. 274) who share an interest in achieving a common goal; that is to develop outputs that enhance the capacities of responder institutions and citizens to better anticipate and respond to extreme and high-impact weather and climate events. Both insiders and outsiders are involved in the co-production of knowledge, whereas the division of labour and also the division of responsibility is in the case of ANYWHERE on the one hand already pre-defined (i.e. through ANYWHERE’s Description of Action, from now on DoA) but at the same time needs to be further specified and negotiated during the research and innovation process.

The collaboration process should be understood as a collective learning process among partners involved (Van den Ven 2007, 276). To facilitate learning, all actors involved should meet on a regular basis in order to better get to know each other and to better understand the different perspectives on the objectives ANYWHERE is pursuing. In addition, regular meetings also help to build up trust and to appreciate the different perspectives represented in ANYWHERE. The diversity of the project partners’ expertise might eventually contribute to a better overall outcome both with regard to the quality of ANYWHERE’s outputs but also with regard to their usefulness and applicability. There is evidence that involving a diverse set of stakeholders in innovation and research processes “increases the impartiality” and contributes to innovation and creativity “through the exposure to diverse assumptions, objectives and ways of viewing phenomena” (Van de Ven 2007, p. 276). ANYWHERE offers multiple venues for interaction such as project meetings, workshops, the case studies and pilot sites, informal meetings in smaller groups etc. (see ad 4).

Amabile et al. (2002, quoted in Van de Ven 2007, p. 277) therefore develop five recommendations for designing a collaborative research process:



1. Careful selection of academics and practitioners from diverse, complementary skills and backgrounds sharing an intrinsic motivation in the problem and a willingness to cooperation with people with different experiences and working in different professional settings;
2. The commitments, roles, responsibilities and expectations of collaborative partners should be clarified at the outset and continually updated as the process is evolving;
3. Establish regular, facilitated communication, especially if team members are not located in the same place;
4. Develop ways for academics and practitioners to get to know and trust each other as people with different backgrounds;
5. There should be set aside some time during the collaborative research and innovation process to reflect on the team itself as well as on the process. Conflicts with regard to expectations or relationships should be addressed actively.

1.3 The cornerstones of ANYWHERE's collaborative framework

Based on the previous discussion, this section outlines the cornerstones of ANYWHERE's collaborative framework and how it is envisioned to implement it during the project. Following Amabile et al. (2002) the framework embraces the following five pillars:

1. Selecting and including **relevant project partners and additional stakeholders** representing **diverse professional backgrounds**;
2. Establishing and refreshing **trustful relationships** both among project partners but also between project partners and stakeholders as well as among the latter;
3. Establishing a transparent baseline scenario with regard to project partners' **expertise, roles and expectations** and with regard to (external) stakeholders' expectations concerning their degree of involvement and the expected outputs developed by ANYWHERE; regularly update the baseline scenario as the project is progressing;
4. Establishing regular possibilities and venues for **interaction** and involvement both within larger groups as well as within smaller and more informal and product and tool-oriented settings; this includes ideally face-to-face meetings but may also comprise other forms of interaction (e.g. phone call, webinars etc.) and take place in different degrees of intensity;
5. Reserving time for **reflection and open discussion** on how the project is progressing and whether the collaboration process needs to be adapted.

In the following we will detail the lay-out of the key aspects in more detail.



1.3.1 The Diversity of project partners and stakeholders' background

Project partner's and external stakeholders expertise is highly diverse. The ANYWHERE consortium consists of different types of scientists, representatives of authorities involved in disaster risk management, partners from industry (bigger companies but also a number of SMEs) and enterprises. Additionally, the ANYWHERE stakeholder's board consists of associated authorities and institutions interested in the project and its development. As a third component, the project is establishing an SME and Industry Collaborative Network (SICN) accommodating companies, institutions and authorities that have signed a Letter of Intent (LoI) to support the project in the field (pilot sites). Figure 1 shows a graphic of the different groups involved in ANYWHERE.

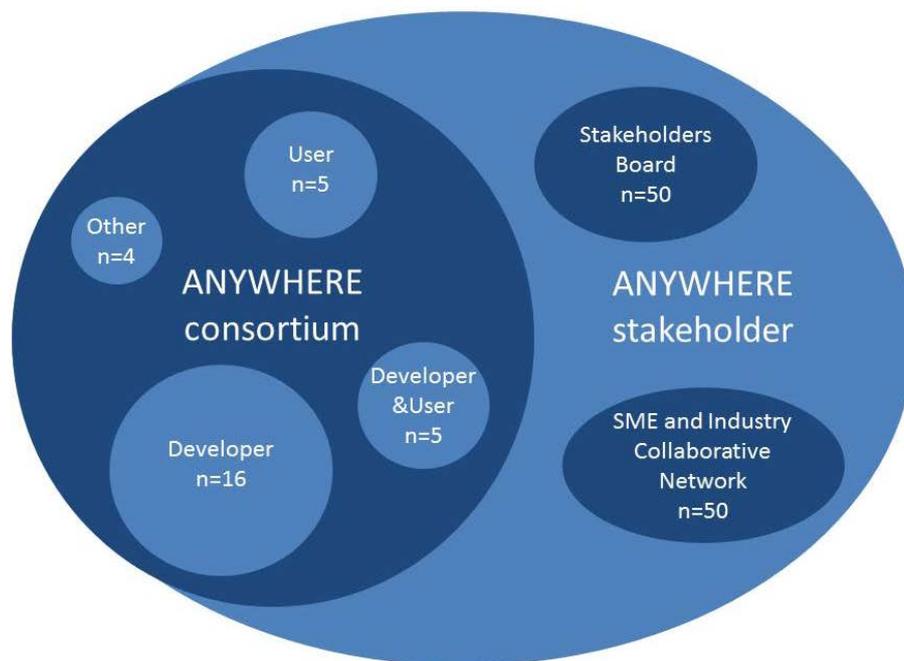


Figure 1: The ANYWHERE project consists of numerous project members, the stakeholder board and the SICN.

The project consortium consists of 31 partner institutions. The Stakeholders Board and the SICN are planned to have 50 members each at the end of the first project year in summer 2017. Section 3.2 further details the professional composition of the project partners.

The current list of members of the Stakeholder Board and the SICN can be found online under:

http://anywhere-h2020.eu/index.php?option=com_content&view=article&id=50&Itemid=159&lang=en

and

http://anywhere-h2020.eu/index.php?option=com_content&view=article&id=196&Itemid=183&lang=en

1.3.2 Establishing a trustful relationship: Kick-off meeting and Genoa Workshop

The first activity that helped building trust within the consortium was a team building activity organised by the project coordination during the kick-off meeting in Sitges (June 7-10, 2016, MS1). The goal was to build a human tower as illustrated in Figure 2.



Figure 2: Team building activity organised as a measure to build trust and improve collaboration within the ANYWHERE consortium. Photo: Shinju Park.

Further means to establish and maintain a good relationship of partners within the consortiums are regular project meetings in attractive locations including joint dinners. The project atmosphere is very open and warm with low hierarchies and a motivating coordinator.

The web-based project management and collaboration tool Basecamp is used as a platform for continuous formal and informal exchange for inside the project and might also improve the relationships of partners due to its very easy and immediate functionalities like chat functions, message board, shared document folders.

However, it needs to be kept in mind that building trust with external stakeholders needs to be worked on continuously to generate and later on maintain their interest in the project and to motivate discussions and feedback.



1.3.3 Unravelling expertise, needs, expectations, and roles

To kick-start this process of specification and to make the different roles of insiders and outsiders but also of the different parties involved in the project as transparent as possible the UFZ-team started with a systematic survey on partners' previous experience, their expectations with regard to the project but also with regard to its outcomes as well as anticipated risks. This was a survey conducted among the "insiders" of the project—that is the members of the consortium (whereas it needs to be noted that some partners are possibly closer to the project than others). In addition, we also exchanged with "outsiders"—that is external stakeholders which are more or less closely related to the project—during the first ANYWHERE meeting in Genoa that took place from September 6-7, 2016 and asked them to also express their expectations to the project (see also section 3.2.1 for more details).

1.3.4 Creating possibilities for interaction and involvement

ANYWHERE foresees many different possibilities for interaction including large consortium meetings, smaller group meetings (e.g. in the pilot sites and case studies) and online meetings (see Figure 3 and Table 1).

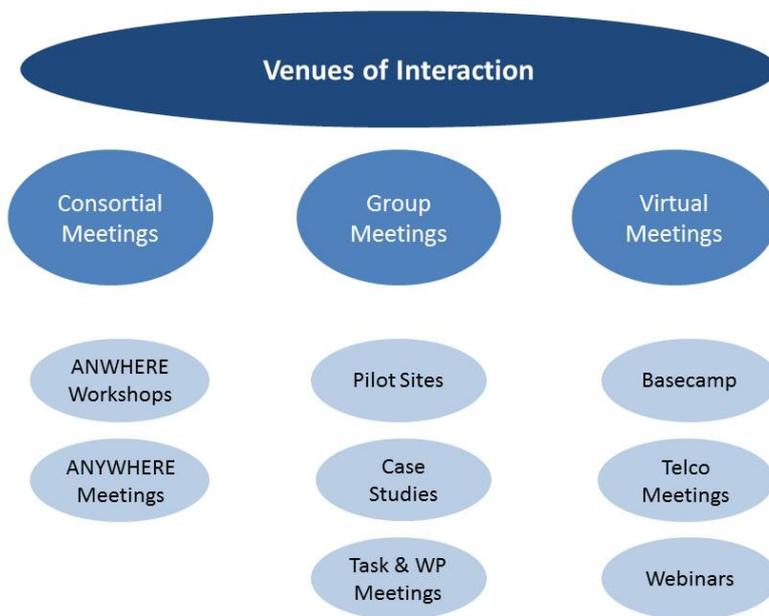


Figure 3: Different possibilities of interaction within the ANYWHERE project: consortial meetings, group meetings, and virtual meetings.



Table 1: List of foreseen venues of interaction within the project.

Type of meeting & Date	Details
1st Workshop Genoa (Italy) 5-8 September 2016	Meeting of consortium, stakeholders board and SICN, presentations, discussions, time for group meetings and individual exchange
1st Project Meeting Reading (UK) 15-17 March 2017	Meeting of the consortium, internal exchange in a large group, time for group meetings and individual exchange
2nd Workshop Helsinki (Finland) 18-22 September 2017	Meeting of consortium, stakeholders board and SICN, presentations, discussions, time for group meetings and individual exchange, space for demonstrations of algorithms and tools in form of booths next to the more technical posters
2nd Project Meeting Bern (Switzerland) 5-9 March 2018	Meeting of the consortium, internal exchange in a large group, time for group meetings and individual exchange
3rd Workshop Barcelona (Spain) 12-16 November 2018	Meeting of consortium, stakeholders board and SICN, presentations, discussions, time for group meetings and individual exchange, space for demonstrations of algorithms and tools in form of booths next to the more technical posters
3rd Project Meeting Bastia (Corsica) before 21st June, 2018	Meeting of the consortium, internal exchange in a large group, time for group meetings and individual exchange
4th Project Meeting Leipzig (Germany) 13-17 May 2019	Meeting of the consortium, internal exchange in a large group, time for group meetings and individual exchange
1st Training Madrid (Spain) 4-8 March 2019	A training school with 150 participants to demonstrate the results and developments produced in ANYWHERE and to train potential new users external to the project.
Final Project Workshop +	Meeting of consortium, stakeholders board and SICN, presentations, discussions, time for group meetings and individual exchange
Training Brussels (Belgium) June 2019 (before 21st)	Training before final conference oriented to demonstrate the innovation potential of the outcomes of the project.
Interaction in case-studies	Meetings, trainings, testing of the MH-EWS to be developed in the project. Different perspectives and involvement highly desired.
Interaction in pilot sites	Meetings, trainings, testing of the MH-EWS to be developed in the project. Different perspectives and involvement highly desired.
Need analysis	All partners of the project were able to contribute by expressing their needs and expectations regarding ANYWHERE.
Other more informal arrangements – monitoring and tracking	Can be defined individually by all partners.

On a more general level, ANYWHERE foresees interaction taking place on different levels of intensity (see also Arbter et al. 2007).



- **Information** provision relies on indirect, one-way communication with (almost) no feedback mechanisms. The purposes of such communication are, among others: informing about the project's progression, about important dates or milestones achieved, about the development of single tools or platforms
- **Consultation** is a form of two-way communication which actively seeks information from or discussions with external stakeholder or within the consortium from partners that are not closely related to the development process of the platform taking place in WP 2, 3 and 4. It aims to receive some kind of feedback, for instance, that previously provided information is understood and adapted. It also aims to allow external stakeholders to express their opinions and views on the project. Examples of this participant strategy are: public meetings with discussions, opinion surveys, citizen panels, or a request for comments (Arbter et al., 2007).
- **Cooperation** encompasses all activities supporting platform development, implementation or marketing as well as activities that aim at the joint development of the platform or the general objectives of ANYWHERE.

1.3.5 Reflection, adaptation and feedback

There is time for reflecting the presented results, for discussing the progress of the projects and for providing feedback during all venues for interaction as presented in this chapter. In addition to that, the project uses Basecamp for internal digital exchange that supports the reflection and discussion of previous work but also of all future project events and activities.

2 Methodology for the establishment of a baseline scenario: roles, expertise and expectations in ANYWHERE

2.1 Assessment of the partners' expectations

The consortium's expectations were assessed by semi-standardized questionnaires, which are based on results of a preliminary assessment conducted during the ANYWHERE Kick-off meeting held in Sitges from June 7-10, 2016 (see Figure 4) The questionnaire was sent to the partners in July 2016 and 30 of 31 partners responded until September 2016, a response rate equivalent to 97%. The questionnaire was divided into five sections: information relation to the personal involved in ANYWHERE, possible contributions to the project, expectations towards the project, perceived risks and roles of the respondents' organisations (i.e. developer or user).



Figure 4: Assessment of the partner's expectations. Photo: Shinju Park.

The data received was organised and analysed with the support of MaxQDA, software developed for qualitative social science research. The roles of partners were processed using cross-tables while for the expectations and risks qualitative coding was used.

The coding was conducted in two steps; firstly, deductive coding was applied using three categories, i.e. input, process, and output (see also section 3.2). All relevant codings were assigned to at least one of the categories. In case an unambiguous categorisation was not possible the coding was assigned to two categories. In total, 723 codings were classified: input (n=27), process (n=252) and output (n=444). In a second step an inductive thematic coding was conducted resulting in eight coding-trees classifying the 723 codings according to their content.



The identified classes are:

- 1) *User Needs*: Specific needs expressed by the future end-users of the ANYWHERE platform.
- 2) *Data & Tools*: Expectations addressing tools and procedures to be included or accessed by the platform as well as expectations concerning the data to be processed by the platform.
- 3) *Hazard*: Specific hazards to be addressed by the platform. This section is partly interlinked with the case studies and pilot sites, which differ also regarding the tasks to be confronted.
- 4) *Pilot Sites & Case Studies*: Expectations concerning the organization, conduction and comparability of the pilot sites and case studies.
- 5) *Ethical and Legal Aspects*: Expectations concerning ethical and legal aspects of warning and disaster risk management, especially concerning the regulatory framework of European and national legislation.
- 6) *Stakeholder Involvement*: Expectations concerning the involvement of external stakeholders; mostly, wish of horizontal or vertical collaboration with public authorities as well as the manner of co-working (e.g. transparency).
- 7) *Open Data, Co-ownership, Exploitation*: Expectations concerning the property rights of the ANYWHERE platform. Wishes range from open data use and free access to privileged access for partners and market exploitation.
- 8) *Internal Governance*: Expectations concerning the internal governance of the project, e.g. the way of collaboration or direct expectations towards specific WPs, tasks or partners.

Table 2 provides an overview about the number of codings per class (e.g. “user needs”), subclass (e.g. “end-user interface”) and categories (e.g. “input”). “User needs” is divided into five subclasses, which are more specific and provide a more differentiated view regarding the users' needs to be considered for platform development. “Internal Governance” is divided into two subclasses. The first one addresses expectations towards specific project partners, tasks or work packages. The second one comprises general expectations of modes collaboration.



Table 2: Numerical Appraisal of the consortium's expectations.

Code	Input	Process	Output	SUM
User needs		20	111	131
a) <i>End-user interface</i>		1	10	11
b) <i>Data & information management</i>			22	22
c) <i>Inter-operability</i>			9	9
d) <i>Technical requirements</i>		3	7	10
e) <i>Interaction with the public</i>			15	15
Data & Tools	14	48	101	163
Hazard	1	8	21	30
Pilot Sites / Case studies	8	32	17	57
Ethical and Legal Aspects		9	10	19
Stakeholder Involvement		29	32	61
Open Data, Ownership, Exploitation			22	22
Internal Governance	4	106	152	262
a) <i>WP/TASK/Partner-specific</i>		45	47	92
b) <i>General</i>		61	83	144
SUM	27	252	444	723

Out of the 723 codings, 262 address *Internal governance* (36%) and 163 *Data & Tools* (23%). Due to their overall relevance, these classes are of importance for all categories. As the table shows, other codes are important only for specific categories. The class *Pilot Sites & Case Studies* is addressed eight times out of the 27 codings of the category *Input* (30%) and 32 times out of the 252 codings of the category *Process* (13%), making this class relevant for the categories *Input* and *Process*. The class *Stakeholder involvement* is coded 29 times out of the 252 codings of the category *Process*. This represents 12% of the *Process* codings, making it very relevant for this category. The class *User needs* is addressed 111 times out of the 444 *Output* codings. This represents 25% of the quotes, proving its relevance for this category.

Subsequently, categories and classes were interrelated and highly relevant expectations were identified. As a result, seven potential challenges for the ANYWHERE project were distilled, which require the attention of the consortium (see section 3.3). Following the expectation analysis a summary of the results was forwarded to the respective task or work package leaders. The assignment of work package and task leaders is based on the DoA.



2.2 Assessment of the external institutions' expectations

The expectations of external institution were collected by using the so-called market place method during the 1st ANYWHERE Workshop, which took place September 6-7, 2016 in Genoa. After an introductory presentation about the project and the concept of co-ownership, four “market stands” (flip charts) were provided to collect the externals' opinions and suggestions in a structured way. Externals' needs, expectations, perceived challenges and desired type of involvement in ANYWHERE were collected using post-it notes that were pinned on the respective flip charts. Comments already pinned to the flip charts could be confirmed by others using adhesive dots. All participants of the workshop were able to participate, 37% of 30 present project partners and 55% of 29 present external institutions did so.

In total 116 comments were collected (35% from partners and 65% from external institutions). The collected comments were thematically clustered and assigned to specific tasks or WPs, if possible (see section 5). The work package and task leaders had the opportunity to comment on the clustered feedback in case they needed clarifications or had other questions before the four summary documents were forwarded to the external participants for a final feedback. After this final feedback loop the documents now provide basis for a continuous self-reflection process of the consortium.



3 Mapping expertise, roles and expectations within the ANYWHERE consortium

This chapter contributes to the establishment of baseline scenario regarding ANYWHERE partners' expertise, roles and expectations. It will be further developed through regular updates throughout the project.

3.1 Roles and professional expertise of project partners

This section provides an overview of the different roles and professional expertise of project partners.

The survey identified two major roles partners can take on in ANYWHERE: *Developers* and *users*. While developers contribute to the development of the platform or other outputs of the ANYWHERE project, users might eventually use ANYWHERE's outputs in their professional environment. Those who did not feel represented by one of the categories could choose either none of them or both of them or could select the option *other* and provide further information. The group *developer* was further specified into four subgroups, namely, 1) *natural scientist/engineer*, 2) *social scientist*, 3) *industry*, 4) *SME*, plus the option *other*. The group *user* is subdivided into 1) *authority*, 2) *enterprise* and 3) *other*.

As Figure 5 shows, a slim majority of partners (16 out of 30) identifies themselves as pure *developers*, five as *users* and five as both *developers* and *users*. Three partners were not able to position themselves as being user or developer. Hence, there are more *developers* in the consortium than *users* and, interestingly, one sixth of the partners have a hybrid position within ANYWHERE as they consider themselves as being both developers and users.

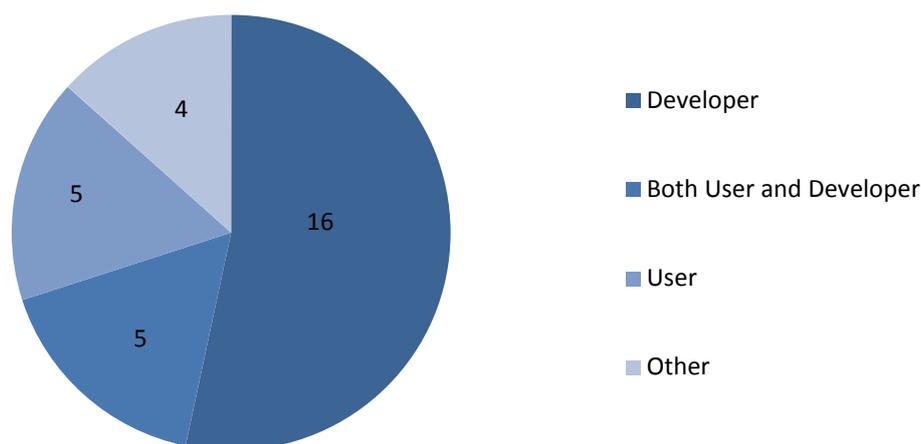


Figure 5: Distribution of Users and Developers within the consortium.



Among the *developers*, the biggest group are *natural scientists/engineers* with a total of twelve partners followed by four *social scientists*. This group is complemented by three *developers* from the corporate sector, i.e. two small and medium enterprises (*SME*) and one industrial partner (*industry*). The sum of the self-affiliations is higher than 16 as some partners affiliate themselves with more than one subgroup, e.g. when both natural and social scientists are part of the team.

Five partners see themselves as being both *developers* and *users*. All of these partner institutions have *natural scientists/engineers* on board while two partners include also *social scientists*. Furthermore, two partners have a business background (one *industrial* and a *SME* partner). Interestingly, all five partners who identify themselves as *developers* and *users* are operational emergency *authorities*, too, and two are at the same time also private *enterprises*. Additionally, one partner also searches for opportunities for business development.

The category *users* only lists operational authorities involved in disaster risk management.

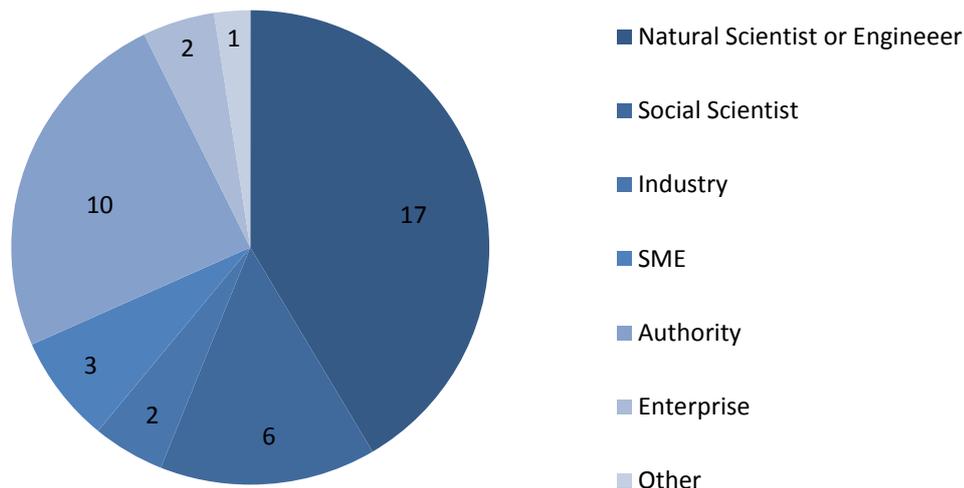


Figure 6: Professional backgrounds of partners of the ANYWHERE consortium.

The detailed distribution of professional backgrounds is represented in Figure 6. The figure shows two aspects: First, it gives an impression of the high share of *natural scientists/engineers* in the project. They are represented in almost half of the partner organisations while business partners only have a relatively small share (less than a quarter, namely: *SME*, *Industry*, *Enterprise*). At the same time, Figure 6 underlines the diversity of professional backgrounds of project partners. This is a great opportunity for the project as it allows overcoming the partiality of expertise and perspectives to achieve the objectives pursued in ANYWHERE. Many different professional backgrounds imply different expertise, assumptions, objectives and ways of reflecting phenomena; a point, which is becomes apparent in the next sections.

3.2 Expectations of ANYWHERE partners

This section outlines the expectations of ANYWHERE partners with regard to the input they would like to provide for the project, the research and innovation process itself as well as with regard to the expected outcomes of the project. This section also includes the documentation of the risks that partners anticipated. Thus, it establishes a baseline scenario with regard to project partners' expectations as well as possible risks.

3.2.1 Input, process, outcome

Expectations expressed by partners' were classified along three dimensions (see also section 2.1):

- 1) Expectations concerning partners' inputs for ANYWHERE (Input)
- 2) Expectations concerning the research and innovation process (Process)
- 3) Expectations concerning the outcome of the project (Output)

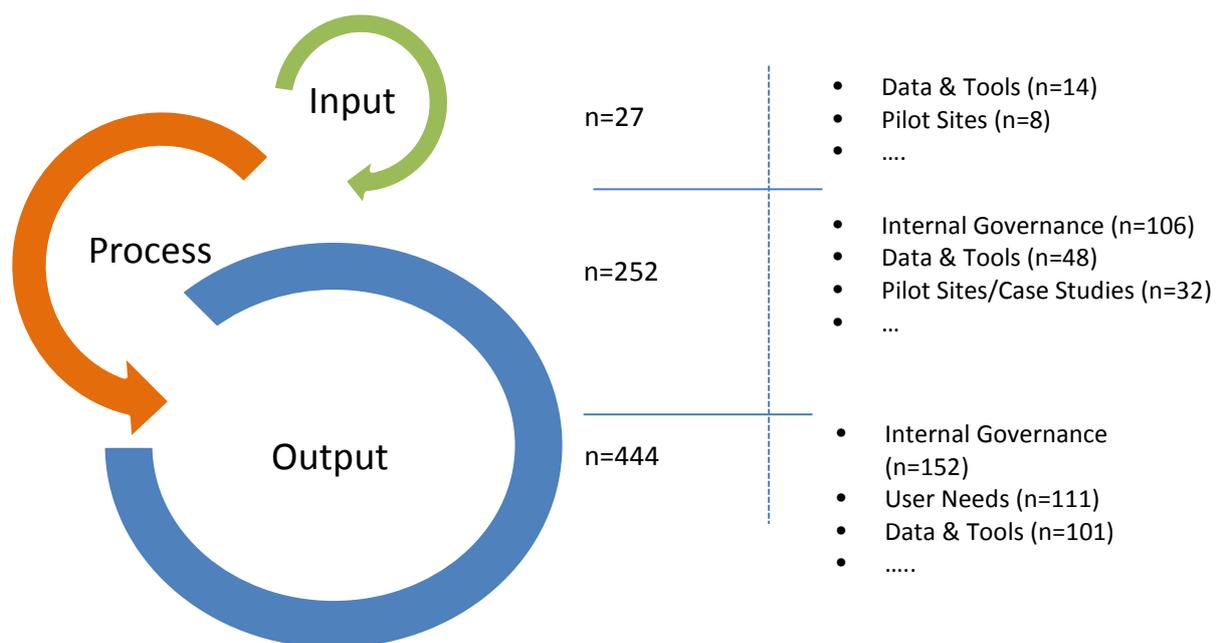


Figure 7: Classification of the consortium's expectations according to the categories Input, Process

Figure 7 shows the distribution of the deductively coded expectations. It can be seen that only few expectations address the **input** of partners for the project. Nevertheless, more than half of these quotes address data and tools, namely that partners would like to see certain tools being included in the ANYWHERE platform. Expectations concerning the working **process** of the project are mentioned nine times more often. Most quotes address the internal governance, i.e. the co-working within the consortium. A significant share of the process-oriented variables also



express expectations regarding data and tools, the pilot sites and case studies as well as the involvement of external stakeholders. The importance of expectations regarding stakeholder involvement and internal governance does not surprise as they mainly address the question of how the consortium works together.

Most expectations address the **output** of ANYWHERE (n=444). Here, expectations emphasising the internal governance, data and tools but also user needs are often mentioned.

3.2.2 Expectations with regard to the input

Partners' expectations with regard to the input include both their individual contributions to the project as well as contributions they expect from other partners (n=27).

Especially partners who categorise themselves as being both *users* and *developers* expressed their wish to contribute with already existing **tools** to the project. Some of those tools were already mentioned in the DoA (RISICO, PROPAGATOR, EFAS) while others were referred to in the survey (MCM, PhSt, RainFARM, ERICHA). This information was forwarded to the leaders of WP 2 and WP 3, who are in charge of the harmonisation of the tools and their integration into the ANYWHERE Multi Hazard Early Warning System (from now on, MH-EWS). Going along with the expectations to integrate different tools into ANYWHERE, there is also the wish to enhance the use of different **data sets** and methodologies, namely of meteorological forecasting, hydrological modelling as well as risk and vulnerability analysis.

The integration of certain tools and use of specific data sets seems to be important aspects for the development of ANYWHERE platform for Decision support in Emergency Management Operation Services (from now on, A4DEMOS). This will be crucial for the operational use of the platform. Here, a partner highlights the importance of a good cooperation in order to guarantee usability of the platform: *"Lacking awareness of which tools and products that already exist creating a mismatch between end users' needs and what is provided"*. Another partner expects a *"consideration and good linkage to existing tools and data"*, supporting the need for co-production right from the beginning of the project to ensure the project's success.

Regarding the class **pilot sites & case studies**, the expectations mainly address specific tools and hazards which are typical for each pilot site. For the class **internal governance** it is suggested to *"analyse the potential of the VOST concept to support the developers in WP4"*, an idea also forwarded to the respective WP leaders.

3.2.3 Expectations with regard to the process

Figure 7 shows that the second biggest share of expectations is related to the research and innovation process (n=255) and predominantly address partner's expectations with regard to the **internal governance** of the project. The internal governance refers to many different aspects that need to be taken care of and managed within ANYWHERE. This includes operational issues such as the scheduling, production of deliverables and the efficient management of the workflow between work packages in order to allow the proper consideration of feedback. Partners, for instance, suggested providing a preliminary version of the platform as



early as possible to the users. In a similar direction goes the comment: *“set-up a demo-version of A4DEMOS at a very early stage that every partner could show when being asked what the project is about”*. Another partner highlights the need to extend the validation period as long as possible: *“It is important to have a large validation period, since the feedback from stakeholders is crucial to define, improve and verify the different tools developed in the project. Moreover, this validation should serve to detect new business opportunities from the available solutions”* – even providing another good reason for a proper consideration of users' feedback despite the tight schedule. An incomplete feedback loop would be problematic for the development of A4DEMOS, as also this partner comments: *“The ambitious work plan approved should not afford the inclusion of end-users recommendations in the methodological phase”*.

Others argue for a re-calibration or focusing of resources: *“It is seen the risk that lot of emphasis is put on the DEMO and little resources to the pilot sites”*. This worry goes alongside with the assumption that priority setting in the current DoA might focus too much on the scientific development of the platform and not so much on the implementation of ANYWHERE outcomes. Priority setting within the project is also addressed by this quote: *“We have a huge program and large consortia. To find proper focus is an issue!”*

This statement also relates to the **pilot sites & case studies**. An operational partner from a pilot site expressed his concern about the project's schedule: *“the pilot phase is almost at the end of the project, so there's no real possibility to implement the adaptations made during the test. Therefore it would be helpful that certain tools and methods could be used by the pilot site already before the official pilot phase”*. Although the schedule is tight it includes a feedback loop which requires not only sufficient time but also the partners' willingness to consider the feedback: *“The developers of the platform and the methods are susceptible to ideas and improvements from the users during the testing and that they are willing to make improvements”*. Additionally to the exchange between the users and developers, the wish for a close exchange between the operational users of different pilot sites is mentioned: *“Periodical exchange of the made experience between the different pilot areas to continually improve the use of the platform and its tools”*.

However, expectations regarding the internal governance are also related to the involvement of stakeholders in the project. Particularly, operational authorities demand profound **stakeholder involvement** especially with regard to the cooperation with local, regional and national entities in charge of disaster risk management: *“Involve the Ligurian region regional civil protection authority in the project; involve specific stakeholders in the project”*. Another partner states that the *“interactive dialogue with local stakeholders and policy-makers in the pilot sites [...]”* is vital.

Transparency and consistency are also key with regard to the governance of the project, the technical functionality of the platform, overall project, collaboration within the consortium and also with regard to external stakeholders as these quotes underline: *“Be transparent with third users. Good and bad results should be given”, “Take all the ideas/comments from all users and give a feedback: 'not possible', 'not accepted', 'refused' ... but answer all the things, to avoid misunderstandings”*. Also, it is not only expected to listen to feedback, but also to open a space that allows third-



party users to provide feedback: *“Create forum and public feedback of the European Data, in internal open space (EFAS style)”*.

Strongly linked to the project's governance is the project's management. It has to find a balance between strict leadership and the provision of autonomy for the WPs and the partners: *“[We expect the project management] to manage the project without putting unnecessary pressure on project partners to perform but creating a long-term bonding and enthusiasm in the project's output”*. Finally, two partners address the expectation to jointly elaborate scientific papers during the course of ANYWHERE.

Regarding **data & tools**, expectations relate to transparency and consistency. On the one hand partners do *“expect [...] transparency that provides information/data [and] clear separation between information provision and consumption”*, on the other hand, partners demand *“an integration of different hazards by same standards/consistent approaches”*.

3.2.4 Expectations with regard to the output

Along with the expectations about the process, the largest share of expectations concerns ANYWHERE's outcomes (n=444).

Expectations are mostly expressed by potential end-users, which highlight a need for transferable, adaptable and flexible outcomes. One partner states that he expects that *“the tools developed are of real use to responders and that they can be transferred to other sites beyond the demonstration exercises”*, underlining the desired transferability of the platform. Flexibility in a more technical sense is demanded by this partner: *“[I expect a] tool that smoothly integrates the very different hazards in a consistent way [and] a tool that provides a seamless forecast [...]”*. Consistency might compete with the wish for individual and tailor-made forecasts, as addressed by this partner: *“Produce useful tools with high tailor made capability”*. There are also great expectations with regard to creativity and the courage for testing new tools: *“I expect the development of new methods and the courageous testing of them in the pilot areas”*. These tests should enhance also *“different now-casting and forecasting algorithms to provide comparisons between different results and methodologies (e.g. geographically vs. statistically approaches)”* and *“an appreciation of how the forecast products can be revised and improved to aid decision support”*.

Anticipated **user needs** refer, above all, to the usability of outputs: *“[we expect] [s]imple and user friendly tools for end-users (national Civil Protection authorities, ERCC, private sector, UN, other stakeholders etc.)”*; *“[the] usability of the tool for experts as well as for less skilled people [is crucial]”* and: *“Tools and products should be so easy and simple to use that they can easily [be] adapted by different users and different platforms. Too many different types of products should be avoided”*. Thus, the partners understand the term usability also in the sense that tools should not be just usable in principle but also accepted by practitioners *“The challenge is that products will be too complicate and they will never end up to real daily use for authorities and other stakeholders”*. The developers are also aware of this challenge, as this quote shows: *“A clear definition of the interface for adding existing and new products”*.



Another point raised by an operational user is the wish to link the advantages of both probabilistic and deterministic forecast methodologies: *“Linkage between local weather fore-&now-cast and locally derived threshold values for process triggering”*.

Regarding the **internal governance**, the collaborative co-working shall have three goals: firstly, *“To make a major contribution towards pan-European operational application of the methodologies and tools piloted in the project”*; secondly, *“to improve the safety of citizens leaving in Europe by developing high quality and robust Early Warning System tools”*; and finally *“to make the outreach wide enough among the key players within EU”*. Nevertheless, how the consortium reaches these goals remains for discussions among the partners and the project management.

3.3 Anticipated challenges for ANYWHERE

The assessment of expectations, resources (potential input) and collaboration provided insights into possible ways of creating co-ownership within ANYWHERE. But no collaboration is free of challenges, especially not in a project with such a large consortium. Within the past section some diverging points were already gleaming. They will be looked at in more detail within this section. From the previous analysis, seven potential challenges for ANYWHERE were identified, which should be openly discussed within the consortium. When the interpretations and foci of the partners diverge too much, these challenges should be addressed timely by the project management and should be mediated.

3.3.1 Lack of communication and collaboration

A possible lack of communication and “real” collaboration is perceived as major risk for the project. This concern is expressed by a number of partners, as those quotes show: *“With such a large consortium coordination and communication is challenge”*; *“[we perceive the risk of a] lack of communication and mutual understanding between developers and end-users”*; and: *“insufficient collaboration and coordination between all the many partners [...]”*. Attention should be focussed on maintaining a trustful collaborative atmosphere.

However, the partners do not only address the risk, but also express their willingness to do their part for a good communication and collaboration: *“For a successful product the needs of the users should be taken into account for all the developing steps. We try to declare our expectations as clear as possible and expect that they are implemented as good as possible. A regular exchange between developers and future users will be helpful”*. A hint is given how a good cooperation can be facilitated: *“support the exchange between developers and end-users, support a mutual understanding of expectation and needs among the different contributors”* (GEO7).

3.3.2 What is the common goal of ANYWHERE?

The idea of creating co-ownership remained up to now quite fuzzy for some partners, although the importance to *“[...] have a 'unique-idea' project”* is highlighted. ANYWHERE should comprise a *“shared and realistic understanding amongst developers, responders and authorities regarding [the] ANYWHERE end products”*



(HSUH). Nevertheless, it is for some partners still unclear where the project is going and what kind of outcomes can be expected. Two options are discussed: to obtain one single platform or to provide a set of individual tools: *“The concentration on one tool/platform is a good aim, but it should not cause restrictions in the display, implementation and development of single methods. So maybe instead of an egg-laying, milk-bearing woolly sow, a chicken, a cow and a sow separately”*. With regard to this challenge, a timely and open discussion about the technical and user-related advantages and disadvantages of the different possible outcomes is required.

3.3.3 Definition and distinction between Needs – Requirements – Specifications

An agreement about the definition and differentiation of end-user needs, requirements and technical specification should be reached, too. Finding a clear and common language between the partners is key for ANYWHERE just like for any other transdisciplinary project. For example, end-user needs can be understood as an intersubjective estimation, which becomes objectified to user requirements and finally gets translated into technical specifications. But those definitions should clearly be agreed on, to ensure the successful translation: *“[We see the risk that the developers] don’t totally understand the end-users’ needs”*.

3.3.4 Timing of the pilot sites

This perceived challenge is already mentioned in section 3.2.3. A partner states the risk of a *“delay in providing an A4DEMOS platform ready for the demonstration period (starting at Month 19 with the pre-operational tests)”*. This should be avoided because: *“it is important to have a large validation period, since the feedback from stakeholders is crucial to define, improve and verify the different tools developed in the project [...]”*, a point also highlighted by this partner: *“The developers of the platform and the methods are susceptible to ideas and improvements from the users during the testing and that they are willing to make improvements”*. It is important to guarantee this window of opportunity, even if some partners are more pessimistic about it: *“The pilot phase is almost at the end of the project, so there’s no real possibility to implement the adaptations made during the test”*.

There are two suggestions on how to respond to this potential risk: by *“set[ting]-up a demo-version of A4DEMOS at a very early stage that every partner could show when being asked what the project is about”* – and which could be used within the pilots – or the provision of *“certain tools and methods [which] could be used by the pilot site already before the official pilot phase”*. Independently, the risk should be taken seriously into consideration, as the possible impacts on the project’s success can be severe.

3.3.5 Involvement of external Institutions and the public

A challenge might arise from ANYWHERE’s alignment with entities from outside. Not only external institutions are part of the project’s design but also the general public should be taken into account. Technically, there might be the challenge that *“stakeholder needs are not sufficiently considered in ANYWHERE products – that*



would result in big disappointments [...]”. Another potential challenge may arise from the ambitious aim to “improve communication and exchange of information between different levels of public authorities”.

This vertical collaboration should be accompanied by a strong horizontal collaboration. Therefore, ANYWHERE should “involve ‘community groups’ in processes to increase the risk awareness” and “establish a better communication system for the last mile (reaching the population)”.

3.3.6 Market-uptake and free use

Probably one of the most controversial debates relates to the perceived tension between market uptake and an envisaged free use at least of parts of the platform(s). This question still lacks a response. Also, it is conceptually unclear “*if there is a clear link between co-ownership and market uptake (WP1&WP7)?*”.

Focussing on the market-uptake, a partner perceives the risk that not all partners are aware of the conditions required for commercialisation: “*focus on traditional research projects [...] might block innovation activities [and, thus, the] commercial focus of the project*”. Along with this the partner demands a “*feasible model and a road-map for exploitation of ANYWHERE solutions*”, which facilitate “*a possible exploitation of results and material prepared for future business analysis and for new business horizons*”. Furthermore, this road map should be “*flexible enough to allow [us] to participate in interactions with SME in a dynamic fashion*”.

Nevertheless, market uptake becomes only possible by providing “*services based on the customized A4DEMOS platform that can actually reach the market and build-up an ecosystem of SME that can further develop services and solutions for Early Warning and Emergency Management*”. Thus, the network idea will be crucial for the project’s commercialisation. Therefore, a high “*visibility while promoting the initiative*” is necessary.

Contrary to the commercialisation foreseen by the DoA, some partners argue that co-ownership should be understood as free access: “*As we are practical users of the product, the co-ownership is for us only important in the sense that the resulting product can be used by our organization for free and without any restrictions. A financial benefit e.g. is not important for us*”. Furthermore: “*My opinion is that a platform which has been developed with public funds should be available for free for public users. I estimate the demand for fee required tool in Switzerland as very small unless the federation would provide it for free to security responsables*”. Thus, there is the concern, that excessive charges for using ANYWHERE products will harm the project’s outreach.

Both perspectives should agree on a common ground, which will not be a simple task: “*Partners cover a broad range of outlooks, size and commercial imperatives. Cohesiveness and ensuring genuine co-ownership of the opportunities might be problematic*”.

Related to the discussion about the accessibility of ANYWHERE products, there is a discussion about data access. In contrast to the previous debate there are three statements in favour of the use of open data: “*Available data should be accessible for all involved parties on the same and a simple way: open data culture!*”, “*The use*



of open source codes and open source mapping will allow the interaction of third companies in an open way”, and, “[we expect the use of] open source data and access”. In this point, there seems to be a certain agreement among the partners.

3.3.7 ANYWHERE – what happens after the project ends?

Uncertainty about the project’s results after it will end is a final challenge addressed. This open question is related to the previous debate between free use and commercialisation, but some specific quotes illustrate its relevance. One point is data access: “[we see the risk that] the driving meteorological data we use is not freely available”. Another point is the access to the tools which might be restricted: “The tools are not used because [they are] not freely accessible after the end of the project”.

In this regard the consortium is confronted with several open questions: “At the end of the project, what will be happen with the platform? As Authority it will be possible to access to data? Who will run and pay the cost of the servers? And who will do the maintenance of the platform?”.

4 Mapping needs and expectations of ANYWHERE’s stakeholder groups

The concept of collaboration not only comprises the involvement of ANYWHERE partners but also the involvement of various institutions external to the consortium and the consideration of their needs and expectations as well as addressing the challenges they foresee (see section 1.2).

Data was collected and validated as described in section 2.2. This section is based on the input of partners as well as of external institutions, i.e. members of the ANYWHERE stakeholder’s board who took part in the market place activity providing insightful inputs. Table 3 gives an overview of the respective shares of internal and external stakeholders’ responses to the enquiry. More than a third of the stakeholders consulted provided feedback.

Table 3: Share of internal and external stakeholders’ responses to enquiry and response rates.

	Expectations	Needs	Challenges	Involvement
Internal stakeholders’ share of responses	33%	44%	39%	33%
External stakeholders’ share of responses	67%	56%	61%	67%

Consultations of the external stakeholders did not only aim at operational aspects of the project, i.e. mapping their expectations of specific WPs, tasks or the project in general and getting the attention turned towards potential risks. Moreover, they provided a starting point for a still on-going exchange about how and to what extent external institutions would like to get involved in ANYWHERE. In addition, the enquiry



set the basis for a continuous self-reflection process. WP and task leaders have the opportunity to comment on the expectations and needs expressed. Assessing what might be feasible or what is beyond the scope of ANYWHERE and providing this feedback to stakeholders supports the management of the high expectations. Additionally, this information can be updated on a regular basis and considered for assessing the progress of the project.

4.1 Needs, Expectations, challenges and involvement

4.1.1 Needs expressed by ANYWHERE stakeholders

The enquiry of needs, which should be addressed by ANYWHERE, provided the following results.

Most of the needs-related replies concerned the capabilities of the platform. Many stakeholders stressed that A4DEMOS should be useful, reliable and easy-to-use. Strong emphasis is put on the implementation of multiple hazard impact analysis. Single stakeholders stated that the implementation of all existing “weather hazard products”, the fast provision of compilations of reports for multiple scenarios and the opportunity to compare results using information from different sources are needed.

Furthermore, the need for robust decision support capabilities was stressed, which on the one hand supply specific information for the local level but on the other hand provide scalable solutions that also work beyond the local level. Similarly, the necessity to express uncertainties buried in the results in a comprehensible manner and the implementation of information sharing functionalities for different target groups, including citizens, was emphasized.

As stakeholders advocated that the ANYWHERE platform should address different audiences its user interface (UI) should be adaptable to cater for their different needs and capabilities. It is suggested that an expert UI as well as a standard UI, which also can be operated by laypersons, are implemented. Furthermore, the platform needs to be serviceable using the respective national language to ensure usability and, when indicated, conformity with (national) legal obligations.

Regarding data and information management stakeholders suggested that existing datasets and tools have to be integrated in ANYWHERE products instead of “reinventing the wheel”. Single stakeholders pointed to particular European datasets, e.g. from EFFIS or ERICHA, which should be used.

The ANYWHERE platform(s) have to interface with existing systems, which they complement. They have to provide for the opportunity to integrate local data sources and they have to comply with technological protocols and formats. On a more general level it is stressed that the methods used for risk exposure analysis and vulnerability mapping have to be clarified. Furthermore, a need to work towards a common disaster risk management terminology, which can be used at but also beyond project level, is stated.

The need for fast data processing was a minor issue. Similarly, the suggestion to consider an open data access strategy was rarely mentioned. Whereas the exchange of good practices among ANYWHERE partners and external stakeholders was expected to promote joint learning. Good experiences especially of civil protection



agencies using ANYWHERE products should also be shared with the general public, e.g. through a blog.

4.1.2 Expectations expressed by ANYWHERE stakeholders

The expectations of external stakeholders are primarily geared towards the ANYWHERE outputs. Nevertheless, some also addressed the working process.

Stakeholders would like to continuously get informed about project activities and they encouraged ANYWHERE partners to start collaborating with external actors from the stakeholder advisory boards and beyond. They further emphasised the imperative of taking the feedback from pilot sites seriously into consideration for platform development. The development process should be inclusive, i.e. focus on adding to or interfacing with existing systems rather than competing with them. It is expected that partners are ambitious but also realistic. Exploratory data research is suggested as an opportunity to ensure usability and user friendliness of the platform. Attention was drawn to the validation of model results, which requires a rigorous data collection process.

The expectations of the ANYWHERE outputs are high and manifold.

As there is a great need for usable tools, many stakeholders stressed that A4DEMOS should be useful, reliable, easy-to-use for different types of users, provide visualisations and aggregate results to a presentable form. It was expected that A4DEMOS will have a modular structure and is compatible with existing operational systems and reporting schemes.

Few stakeholders expressed their hopes that model physics in general or the modelling of particular hazard impacts, e.g. hydraulic production and consumption demand will be improved and that access to midrange (raw) data sets will be granted.

Some stakeholders did not expect any less than A4DEMOS becoming in future the one place to go for hazard management.

Often it was highlighted that ANYWHERE products should not only improve the effectiveness and efficiency of disaster risk management but also risk communication to the general public. In doing so, A4DEMOS will have to comply with the One Voice Principle.

4.1.3 Challenges foreseen by ANYWHERE stakeholders

The challenges foreseen by ANYWHERE stakeholders address the inputs required for a successful implementation of the project, the working process and the outputs to be developed.

Some stakeholders asked for elaborating more on the opportunities to get involved in order to clarify still existing uncertainties about how they can contribute to make ANYWHERE a success story. Furthermore, it is stressed that the investigation of the needs of different (potential) user groups as well as the related definition of user requirements will be an important input to the development process.



The establishment of interfaces of A4DEMOS to existing operational systems was considered to be the single most important challenge in the development process. Many stakeholders stressed that A4DEMOS will presumably rather complement than substitute these legacy systems. This was not only discussed as a technical but also as an organisational and social challenge. It was suggested that it should be explicitly clarified how A4DEMOS relates to the existing systems.

The exchange, cooperation and common understanding within such a big and heterogeneous international consortium consisting of practitioners, IT developers, modellers, natural and social scientists was seen as being very challenging. The same applies for the creation of the sense of co-ownership and co-responsibility envisioned.

The broadening of the development base and the acceptance of A4DEMOS by the end-users were seen as being crucial for the success of ANYWHERE. Some stakeholders suggested that the strategic choice to use open source software could be beneficial in this regard. The chances for the long-term operability of A4DEMOS were an important issue for the stakeholders. They stressed that it can only be assured if adequate commercialization strategies will be developed.

External communication was considered to be a relevant and potentially conflictual issue. Therefore, the development and implementation of a strategy for information sharing was suggested.

Furthermore, legal constraints regarding data use and the management of intellectual property rights were discussed.

One of the rather general comments underlined the necessity to manage the high expectations of ANYWHERE outcomes.

Stakeholders stressed that disaster risk management at the local level is very challenging and, therefore, the ambition to increase its efficiency through the use of ANYWHERE products is so, too. This will be even more so, if these products have to create an added value for and be applicable by different users at different scales.

The management of uncertainties, their representation in A4DEMOS results as well as the comprehensiveness of the A4DEMOS outputs were also addressed by the stakeholders.

The improvement of the effectiveness of risk communication and the compliance with the One Voice Principle were picked out as challenges.

The future of the ANYWHERE products also provoked some thoughts. Stakeholders stressed that innovation depends on upgradability of systems, consistent data-format and data-standards. So they suggested that ANYWHERE products should be upgradable, adjustable, interoperable and comply with technological protocols and formats to promote long-term operability and downstream innovation activities. They asked for producing “something reliable for responders and public and also attractive enough to foster new initiatives.”



4.1.4 Involvement of ANYWHERE stakeholders

Stakeholders want to get involved in ANYWHERE in multiple ways simultaneously. This means that they did not choose just one mode of interaction, e.g. information, consultation or cooperation, but opted for combinations of these. .

The interaction mode “information” implies that progress of platform development is reported to the stakeholders on a regular basis. “Consultation” means stakeholders provide inputs for platform development, implementation or marketing activities. “Cooperation” encompasses all activities supporting and getting involved in platform development, implementation or marketing (compare section 1.3.4).

Few stakeholders addressed the interaction mode “information”, i.e. asked explicitly for receiving regular updates on project progress and the promotion of information exchange between the pilot sites.

Many more expressed their willingness for “consultation”, i.e. providing inputs for ANYWHERE. Single statements of intent were rather general as it was not completely clear to all stakeholders, how they can contribute to the project. Some stakeholders provided specific suggestions for the platform design and the development of applications linked to A4DEMOS, e.g. tools for infrastructure providers. Furthermore, it was suggested to link A4DEMOS to existing operational platforms such as Delft-FEWS and make use of their experiences. Many stakeholders offered to share data and experiences, support the analysis of decision-making processes, link-up ANYWHERE with other EU projects or provide advice in linking different models using open-MI protocol.

Most of the stakeholders were interested in a “cooperation” with ANYWHERE partners. Unspecific statements expressing a rather general willingness to support platform development were exceptions. Many stakeholders submitted very specific offers with regard to the provision of data, models, technologies, experiences and forecasts. Feedback also included specific suggestions for platform development, e.g. the use of open source software and open modelling interfaces to broaden the development base, and offers to contribute algorithms or methodologies, to develop services and products. Some stakeholders expressed their willingness to get involved in testing A4DEMOS, e.g. by offering an interactive data exploitation platform for testing or using the tools to be developed for “real practice problems”. Furthermore, support of and/or participation in demonstration activities were offered by corporate actors, regional and municipal authorities as well as by cooperating H2020 EU projects (ISMB [I-React]) and research institutes. End-users and partners offered their support for platform evaluation and corporate stakeholders assistance for the distribution and marketing activities.

4.2 Summary

Feedback received from stakeholders covered a great variety of aspects of the development process and anticipated properties of future ANYWHERE products. Nevertheless, several priority issues could be identified regarding the needs and expectations of ANYWHERE stakeholders as well as the challenges they foresee.

1. The single most often addressed issue across all categories (21 comments) was the challenging need of A4DEMOS to establish interfaces with the



existing operational systems. Many stakeholders suggested that A4DEMOS should not compete with existing tools and platforms but rather complement them.

2. The need to develop a highly reliable and usable platform (adaptable UI, visualisations, etc.) was often emphasised (16 comments) and the implementation of robust decision support capabilities for actors at different scales was expected (10 comments).
3. Stakeholders did not only focus on the development of A4DEMOS but also on its long-term operability. They stressed that it can only be assured through upgradable and adjustable ANYWHERE products and an adequate commercialization strategy (7 comments).
4. For many stakeholders encouraging exchange and cooperation within the consortium will be a key aspect to promote the success of ANYWHERE (7 comments).
5. It is suggested that a modular platform A4DEMOS would facilitate customization and the development of third party applications (4 comments).
6. At market place discussions as well as in the feedback loop the need for multiple hazard *impact* analysis as well as a comprehensible representation of uncertainties of results were emphasised (4 comments each).



5 Key challenges for the successful implementation of the ANYWHERE project

Based on the analyses conducted in Task 1.1 and presented in this report a list of key challenges was elaborated and some very general suggestions are made how to tackle them. The aim is to use the following list as one means to monitor the progress of the project in terms of collaboration and in order to ensure the successful implementation of the project and to create an atmosphere of co-ownership. In addition, it is suggested that they are also incorporated in the implementation plans developed by all WPs until the end of 2016 and that each WPs makes suggestions how to deal with the challenges (if they are relevant for their WP).

1. **What is the common goal of ANYWHERE?** While the overarching goal of ANYWHERE is clearly stated in the DoA, its specification is open to multiple interpretations and therefore should not be taken for granted.
 - ⇒ Generally, the more ANYWHERE is progressing, the more specified its single outcomes will become. It should be reflected upon, how they link back to the central objectives of ANYWHERE. Particularly during the mid-term meeting this should become a matter of discussion in order to propose possible corrective measures.
2. **Lack of communication and collaboration:** Ensuring effective and transparent communication (e.g. flows of information, forming collaboratively opinions about next steps or important decisions) is a major challenge for any project of this size.
 - ⇒ It is suggested to make this an explicit point of all project meetings and reserve some time to reflect about how established communication means are working and whether they need to be adapted; it should also be reflected upon how the overall collaborative process is taking place and in which areas it is working very well and where it might need some improvements.
3. **Definition and distinction between Needs – Requirements – Specifications:** These terms are used very loosely so far and therefore might represent a risk when it comes to the actual conduction of the need analysis as responsibilities are not yet clearly established, particularly between WP 1, 3 and 6.
 - ⇒ These terms should be clearly defined and agreed upon between involved project partners within the first 12 months of the project. Members of WP 1 should clarify terms and responsibilities for the analysis between the respective WPs.
4. **Timing of the pilot sites:** Generally the workflow between the analysis of what stakeholders need or require (WP 1), what the consortium is able to supply (WP2) and the development of the platform 4ADEMOS (WP 3 and 4) and its application and testing in the pilot sites is very challenging and depends on both smooth flows of information and on keeping agreed upon timelines.
 - ⇒ It is suggested to make this an explicit point of all project meetings and reserve some time to reflect about how the workflow between the involved



WPs is set up. Possible delays and associated risks should be communicated early in order to find effective solutions.

5. **Involvement of external institutions and the public:** ANYWHERE involves a substantive number of external institutions throughout the project, which is a challenge, and at the same time offers multiple occasions for interaction.
 - ⇒ It is suggested to make the flow of information between the external institutions and the consortium an explicit task for the project. In addition, the consortium should reserve some time as the project is progressing to reflect upon or possibly even evaluate whether external institutions are able to actually contribute to the collaborative process and how they see their needs and requirements incorporated into the project. At the same time, the consortium should also clearly address expectations raised by external institutions that go beyond the scope of ANYWHERE.
6. **Market-uptake and free use:** There is a tension identified that touches the core of the project's objectives: Will ANYWHERE outputs be accessible and usable by the wider community or will their distribution and use be restricted due to the marketing strategy to be developed and implemented? The long-term operability of the platform(s) can only be assured, it is suggested by external institutions, if ANYWHERE products are modular, adjustable, upgradable, technically compatible for third party developments, and if an adequate commercialisation strategy will be developed and implemented.
 - ⇒ It is suggested to make this point an explicit point of discussion at the next project meeting and to develop a strategy on how to deal with this tension. As the project is progressing, the consortium should come back to this issue and reflect upon it.
7. **Ensuring that ANYWHERE's outcomes are useful and applicable:** The ultimate goal of ANYWHERE is to develop outputs that will be used after the end of the project. External institutions already expressed some basic expectations with regard to the outcomes. It was stated that A4DEMOS should strive at establishing interfaces with existing operational systems and hence rather complement existing platforms than compete or even replace them. And the reliability and usability of A4DEMOS as well as its robust decision support capabilities for different actors and scales are of key importance for making ANYWHERE a success.
 - ⇒ To understand and analyse stakeholders' needs and expectations is the task of WP 1, to incorporate stakeholders' needs into the development of the outcomes of ANYWHERE is a task for WP 2, 3 and 4. What needs to be further specified is how the information gathered in WP 1 is passed over to the next WPs. This should be clarified during the next project meeting, the latest.



6 References

- Agranoff, R. and M. McGuire 2003: Collaborative Public Management: New Strategies for Local Governments, Washington, DC: Georgetown University Press.
- Amabile, T., C. Patterson, J. Mueller, T. Wojcik, P.W. Odomirok, M. Marsh, and S.J. Kramer 2001: Academic-Practitioner Collaboration in Management Research: A Case of Cross-Profession Collaboration. *Academy of Management Journal*, 44, 2, 418-435.
- Arbter, K., M. Handler, E. Purker, G. Tappeiner, and R. Trattnigg 2007: The Public Participation Manual: Shaping the Future Together. Vienna: Austrian Ministry of Environment & ÖGUT, 9.
- Bracken, L., H. Bulkeley, and G. Whitman 2014: Transdisciplinary research: understanding the stakeholder perspective. *Journal of Environmental Planning and Management*, 58, 7, 1291-1308.
- Himmelman, A.T. 2001: On Coalitions and the Transformation of Power Relations: Collaborative Betterment and Collaborative Empowerment. *American Journal of Community Psychology*, 29, 2, 277–284.
- Poocharoen, O. and B. Ting 2015: Collaboration, Co-Production, Networks: Convergence of theories, *Public Management Review*, 17, 4, 587-614.
- Sarewitz, D. and R.A. Pielke Jr 2007: The neglected heart of science policy: reconciling supply of and demand for science. *Environmental Science & Policy* 10, 5-16.
- Van den Ven, A.H. 2007: Engaged scholarship. A guide for organizational and social research. Oxford University Press, Oxford.
- von Schomberg, R. 2011: Prospects for technology assessment in a framework of responsible research and innovation'. In: Dusseldorp, M. and Beecroft, R. (eds) *Technikfolgen abschätzen lehren. Bildungspotenziale transdisziplinärer Methoden*, Springer, 39–61.